

Forest Imaging

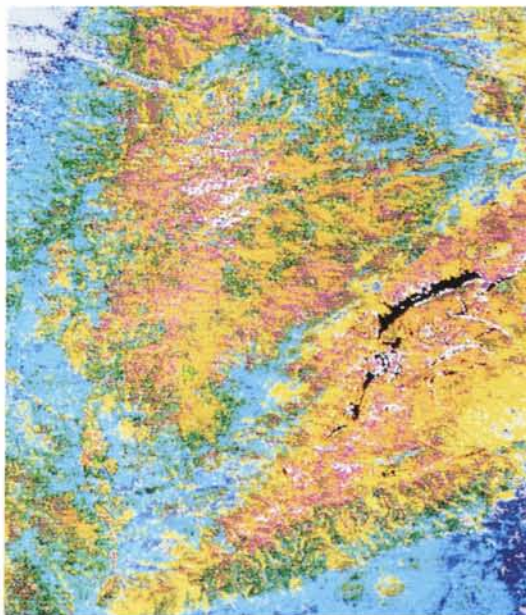


Below is a color-coded image showing the various types of vegetation in Cibola National Forest, which includes lands in New Mexico, Texas and Oklahoma. Acquired by reflectance sensors aboard a NASA developed Landsat satellite and created by NASA's ELAS image processing software, the image is one of many being used by the

*SPACE REMOTE SENSING TECHNOLOGY IS BEING
EMPLOYED IN FOREST VEGETATION MAPPING*

Forest Service of the U.S. Department of Agriculture to map ground characteristics of the forest in support of a variety of activities, such as timber analysis, wildlife habitat, range measurement, and development of general vegetation maps for use in the area's geographic information system (GIS).

Unlike the EOCAP-sponsored commercially-oriented applications of satellite remote sensing technology (see pages 82-85), the work at Cibola is a cooperative technology demonstration involving several government and academic agencies.



"By pooling resources and cooperation," says Forest Service soil scientist Steve McWilliams, who coordinates remote sensing activities, "we hope to provide technology transfer for improved resources management using a fast, accurate and less expensive method of inventorying vegetation over a large, complex area at a point in time."

And, McWilliams adds, the multi-agency synergistic approach offers benefits beyond vegetation typing: "Concepts of diversity and ecosystem associations can be depicted in a manner unlike any previously available technology. This (remote sensing) technology will enhance conventional assessments when addressing the requirements of the National Environmental Policy Act; assist in updating forest plans according to the National Forest Management Act; and facilitate the delineation of special areas, such as riparian areas."

NASA is part of the multi-agency team, through its Technology Applications Center at the University of New Mexico (Albuquerque), which provides image acquisition, analysis and processing support. The Water Resources Division of the U.S. Geological Survey contributed a computing platform and GIS software. The Rio Puerco (New Mexico) district office of the Bureau of Land Management aids in management of adjacent lands, studies limits of acceptable change and analyzes vegetation. The Cibola effort also supports the University of New Mexico's Long Term Ecological Research site. The Forest Service has extended the benefits of remotely sensed data to the City of Albuquerque and New Mexico State Forestry for assistance in recreation/open space analysis and forest/urban interface. ●